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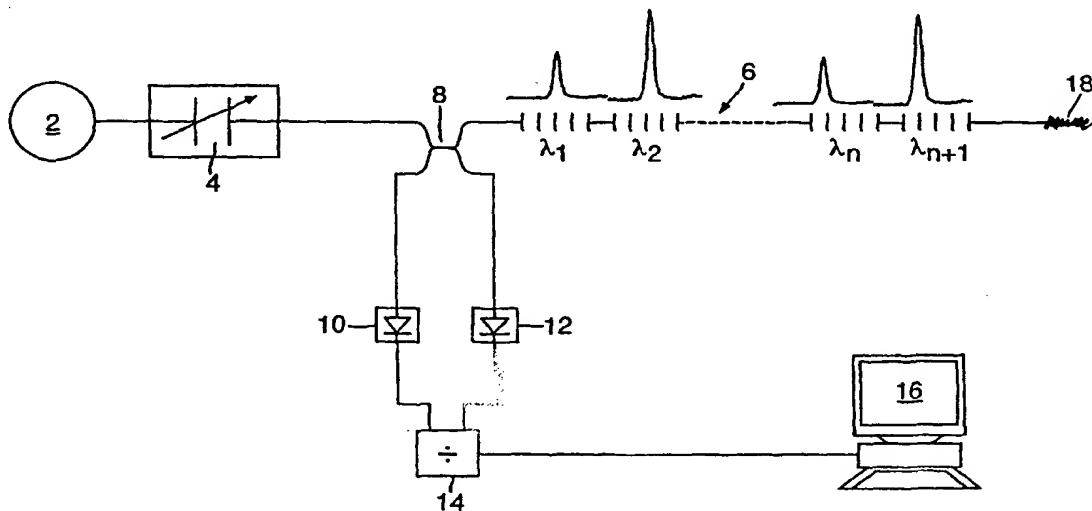
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(71) Applicant (for all designated States except US):	MARCONI CASWELL LIMITED [GB/GB]; One Bruton Street, London WIX 8AQ (GB).		
(72) Inventors; and			
(75) Inventors/Applicants (for US only):	GROVES-KIRKBY, Christopher [GB/GB]; 19 West End, Bugbrooke, Northampton NN7 3PF (GB). BENNION, Ian [GB/GB]; 25 Guilsborough Road, Ravensthorpe, Northampton NN6 8EW (GB). WILLIAMS, John [GB/GB]; 15 Deanbrook Close, Shirley, Solihull, West Midlands B90 4XS (GB). ZHANG, Lin [CN/GB]; 71 Solihull Lane, Hall Green, Birmingham B28 9LT (GB).		
(74) Agent:	HOSTE, Colin, Francis; Marconi Intellectual Property, Waterhouse Lane, Chelmsford, Essex CM1 2QX (GB).		

(54) Title: STRAIN SENSING



(57) Abstract

A strain sensor comprises an optical waveguide (6) having a plurality of reflecting structures (Bragg gratings) along its length. Each structure reflects light at a different characteristic wavelength ( $\lambda_1$  to  $\lambda_{n+1}$ ) which changes in dependence on a change of physical length of at least part of the reflecting structure. The reflectivity of reflecting structures which reflect at characteristic wavelengths which are adjacent to each other ( $\lambda_1$  and  $\lambda_2$  or  $\lambda_n$  and  $\lambda_{n+1}$ ) are configured to be different such that the intensity of light reflected from adjacent structures can be used to discriminate between them.